

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/586, 890
Source: IFWP
Date Processed by STIC: 08/04/2006

ENTERED



IFWP

RAW SEQUENCE LISTING

DATE: 08/04/2006

PATENT APPLICATION: US/10/586,890

TIME: 14:21:30

Input Set : E:\UPN-Q3355USA.txt

Output Set: N:\CRF4\08042006\J586890.raw

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3 <110> APPLICANT: The Trustees of the University of Pennsylvania
4      Stedman, Hansell
5      Su, Leonard
6      Mitchell, Marilyn
8 <120> TITLE OF INVENTION: Microutrophin and Uses Thereof
10 <130> FILE REFERENCE: UPN-Q3355PCT
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/586,890
C--> 12 <141> CURRENT FILING DATE: 2006-07-21
12 <150> PRIOR APPLICATION NUMBER: US 60/538,877
13 <151> PRIOR FILING DATE: 2004-01-23
15 <160> NUMBER OF SEQ ID NOS: 12
17 <170> SOFTWARE: PatentIn version 3.3
19 <210> SEQ ID NO: 1
20 <211> LENGTH: 3507
21 <212> TYPE: DNA
22 <213> ORGANISM: Artificial
24 <220> FEATURE:
25 <223> OTHER INFORMATION: canine microutrophin
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32 ttaccaaagt gatcaatgcg cgattttcaa agagtggaaa accacccatc aatgatatgt      180
34 tcacagacct caaagatgga aggaagctcc tggatcttct ggaaggcctc acaggaacat      240
36 cactgccaac ggaacgtggt tccacaaggg tacatgcttt aaataatgtc aacagagtgc      300
38 tgcaggtttt gcatacagaat aatgtggatt tagtgaatat aggaggaact gacattgtag      360
40 atggaaatca caaactgact ttgggattac ttgggagcat cattttgcac tggcaggtaa      420
42 aagatgtcat gaaagatgtc atgtcagacc tgcagcagac aaacagtgcg aagatcctac      480
44 tgagctgggt ggcgccagtct actaggccgt acagccaggt caacgtcctc aacttcacca      540
46 ccagctggac agatggactg gcctttaatg ctgtgctgca ccgacataaa cctgatctct      600
48 tcagctggga tagagttgtc aaaatgtccc caattgagag acttgaacat gccttcagca      660
50 aagctcaaac ttatttgga attgaaaagc tgtagatcc tgaagatgtt gccgttcaac      720
52 ttcctgacaa gaaatccata attatgtatt taacatcttt gtttgagggtg cttcctcagc      780
54 aagtcactct agatgccatc cgtgaagtag agacactccc aaggaaatat aagaaagaat      840
56 gtgaagaagg agagattagt atacagagct cagcgcagga ggaggagcat gagtgtcccg      900
58 gagctgaaac cccagcact gtcactgaag ttgacacgga tctggacagc tatcagatag      960
60 cactggagga agtgctgacc tgggtgcttt ctgccgagga cactttccag gagcaggatg      1020
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70 atgtgttgat ggaactacaa aagaagcagt tgcaacagct ctctgcctgg ttaacactca      1320
72 cagaagaacg cattcagaag atggaaacct gccccctgga tgatgattta aaatccctac      1380
74 aaaagctact agaagatcat aaacgtttgc aaaatgatct tgaggcggaa caggtgaagg      1440

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76 taaattcact aacacacatg gtggtgattg ttgatgaaaa cagtgggtgag agtgccactg 1500
78 ctgttctgga agatcagtta cagaaacttg gtgaacgctg gacagcagtg tgccgttgga 1560
80 cagaggaacg ttggagtagg ctacaagaaa ttaatatatt gtggcaggaa ttattagaag 1620
82 aacagtgctt gttgaaagct tggctaactg aaaaagaaga ggctttaat aaagtccaga 1680
84 cgagcaactt caaagaccaa aaggaactaa gtgtcagcat ccgacgattg gctattttga 1740
86 aggaagacat ggaaatgaaa cgtcaggcat tggatcagct aagttagatt ggccaggatg 1800
88 tgggtcaatt agttgataat cccaaggcat ctaagaagat caacagtac ttagaggaac 1860
90 taactcagag atgggattct ttggttcaga gactagaaga ttctctaac caggtgactc 1920
92 aggctgtggc aaagctgggg atgtcccaaa ttctcagaa agatcttctg gagactgttc 1980
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98 atgacctgga tgttgacatg aaggaggcgg aggctgtgag gaatggctgg aagcctgtgg 2160
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104 cacttgacct gcatccatct cttaaagatgt ctgcgcagct agatgacctt aatatgcgat 2340
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126 gtccgacaga aatgtgtgac cagaggcagc ttggcctggt acttcatgat gccatccaga 3000
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132 ggatgcgtct ggaaccacag tccatggttt ggctgccagt tttacaccga gtggctgcag 3180
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138 gtcgaacggc aaaaggtcac aaattacatt acccaatggt ggaatattgt atacctaca 3360
140 catctgggga agatgtacga gacttcaaa aggtgctgaa gaataagttc agatcaaaga 3420
142 aatactttgc caaacatcct cggcttggtt acctgcctgt ccagacagta cttgaagggtg 3480
144 acaacttaga gacttgaaaa actcgag 3507

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147 <210> SEQ ID NO: 2

148 <211> LENGTH: 1162

149 <212> TYPE: PRT

150 <213> ORGANISM: Artificial

152 <220> FEATURE:

153 <223> OTHER INFORMATION: Canine Microutrophin

155 <400> SEQUENCE: 2

157 Met Ala Lys Tyr Gly Glu His Glu Ala Ser Pro Asp Asn Gly Gln Asn

158 1 5 10 15

161 Glu Phe Ser Asp Ile Ile Lys Ser Arg Ser Asp Glu His Asn Asp Val

162 20 25 30

165 Gln Lys Lys Thr Phe Thr Lys Trp Ile Asn Ala Arg Phe Ser Lys Ser

166 35 40 45

169 Gly Lys Pro Pro Ile Asn Asp Met Phe Thr Asp Leu Lys Asp Gly Arg

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170      50      55      60
173 Lys Leu Leu Asp Leu Leu Glu Gly Leu Thr Gly Thr Ser Leu Pro Lys
174 65      70      75      80
177 Glu Arg Gly Ser Thr Arg Val His Ala Leu Asn Asn Val Asn Arg Val
178      85      90      95
181 Leu Gln Val Leu His Gln Asn Asn Val Asp Leu Val Asn Ile Gly Gly
182      100      105      110
185 Thr Asp Ile Val Asp Gly Asn His Lys Leu Thr Leu Gly Leu Leu Trp
186      115      120      125
189 Ser Ile Ile Leu His Trp Gln Val Lys Asp Val Met Lys Asp Val Met
190      130      135      140
193 Ser Asp Leu Gln Gln Thr Asn Ser Glu Lys Ile Leu Leu Ser Trp Val
194 145      150      155      160
197 Arg Gln Ser Thr Arg Pro Tyr Ser Gln Val Asn Val Leu Asn Phe Thr
198      165      170      175
201 Thr Ser Trp Thr Asp Gly Leu Ala Phe Asn Ala Val Leu His Arg His
202      180      185      190
205 Lys Pro Asp Leu Phe Ser Trp Asp Arg Val Val Lys Met Ser Pro Ile
206      195      200      205
209 Glu Arg Leu Glu His Ala Phe Ser Lys Ala Gln Thr Tyr Leu Gly Ile
210      210      215      220
213 Glu Lys Leu Leu Asp Pro Glu Asp Val Ala Val Gln Leu Pro Asp Lys
214 225      230      235      240
217 Lys Ser Ile Ile Met Tyr Leu Thr Ser Leu Phe Glu Val Leu Pro Gln
218      245      250      255
221 Gln Val Thr Leu Asp Ala Ile Arg Glu Val Glu Thr Leu Pro Arg Lys
222      260      265      270
225 Tyr Lys Lys Glu Cys Glu Glu Gly Glu Ile Ser Ile Gln Ser Ser Ala
226      275      280      285
229 Pro Glu Glu Glu His Glu Cys Pro Gly Ala Glu Thr Pro Ser Thr Val
230      290      295      300
233 Thr Glu Val Asp Thr Asp Leu Asp Ser Tyr Gln Ile Ala Leu Glu Glu
234 305      310      315      320
237 Val Leu Thr Trp Leu Leu Ser Ala Glu Asp Thr Phe Gln Glu Gln Asp
238      325      330      335
241 Asp Ile Ser Asp Asp Val Glu Glu Val Lys Glu Gln Phe Thr Thr His
242      340      345      350
245 Glu Ala Phe Met Met Glu Leu Thr Ala His Gln Ser Ser Val Gly Ser
246      355      360      365
249 Val Leu Gln Ala Gly Asn Gln Leu Ile Thr Gln Gly Thr Leu Ser Asp
250      370      375      380
253 Glu Glu Glu Phe Glu Ile Gln Glu Gln Met Thr Leu Leu Asn Ala Arg
254 385      390      395      400
257 Trp Glu Ala Leu Arg Val Asp Ser Met Asn Arg Gln Ser Arg Leu His
258      405      410      415
261 Asp Val Leu Met Glu Leu Gln Lys Lys Gln Leu Gln Gln Leu Ser Ala
262      420      425      430
265 Trp Leu Thr Leu Thr Glu Glu Arg Ile Gln Lys Met Glu Thr Cys Pro
266      435      440      445

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269 Leu Asp Asp Asp Leu Lys Ser Leu Gln Lys Leu Leu Glu Asp His Lys
270      450                      455                      460
273 Arg Leu Gln Asn Asp Leu Glu Ala Glu Gln Val Lys Val Asn Ser Leu
274 465                      470                      475                      480
277 Thr His Met Val Val Ile Val Asp Glu Asn Ser Gly Glu Ser Ala Thr
278                      485                      490                      495
281 Ala Val Leu Glu Asp Gln Leu Gln Lys Leu Gly Glu Arg Trp Thr Ala
282                      500                      505                      510
285 Val Cys Arg Trp Thr Glu Glu Arg Trp Ser Arg Leu Gln Glu Ile Asn
286                      515                      520                      525
289 Ile Leu Trp Gln Glu Leu Leu Glu Glu Gln Cys Leu Leu Lys Ala Trp
290      530                      535                      540
293 Leu Thr Glu Lys Glu Glu Ala Leu Asn Lys Val Gln Thr Ser Asn Phe
294 545                      550                      555                      560
297 Lys Asp Gln Lys Glu Leu Ser Val Ser Ile Arg Arg Leu Ala Ile Leu
298                      565                      570                      575
301 Lys Glu Asp Met Glu Met Lys Arg Gln Ala Leu Asp Gln Leu Ser Glu
302                      580                      585                      590
305 Ile Gly Gln Asp Val Gly Gln Leu Val Asp Asn Pro Lys Ala Ser Lys
306                      595                      600                      605
309 Lys Ile Asn Ser Asp Ser Glu Glu Leu Thr Gln Arg Trp Asp Ser Leu
310      610                      615                      620
313 Val Gln Arg Leu Glu Asp Ser Ser Asn Gln Val Thr Gln Ala Val Ala
314 625                      630                      635                      640
317 Lys Leu Gly Met Ser Gln Ile Pro Gln Lys Asp Leu Leu Glu Thr Val
318                      645                      650                      655
321 Arg Ile Arg Glu Gln Val Thr Thr Lys Arg Ser Lys Gln Glu Leu Pro
322                      660                      665                      670
325 Pro Pro Pro Pro Lys Lys Arg Gln Ile Pro Val Asp Leu Glu Lys
326      675                      680                      685
329 Leu Arg Asp Leu Gln Gly Ala Met Asp Asp Leu Asp Val Asp Met Lys
330      690                      695                      700
333 Glu Ala Glu Ala Val Arg Asn Gly Trp Lys Pro Val Gly Asp Leu Leu
334 705                      710                      715                      720
337 Ile Asp Ser Leu Gln Asp His Ile Glu Lys Thr Met Ala Phe Arg Glu
338                      725                      730                      735
341 Glu Ile Ala Pro Ile Asn Leu Lys Val Lys Thr Val Asn Asp Leu Ser
342                      740                      745                      750
345 Ser Gln Leu Ser Pro Leu Asp Leu His Pro Ser Leu Lys Met Ser Arg
346      755                      760                      765
349 Gln Leu Asp Asp Leu Asn Met Arg Trp Lys Leu Leu Gln Val Ser Val
350      770                      775                      780
353 Asp Asp Arg Leu Lys Gln Leu Gln Glu Ala His Arg Asp Phe Gly Pro
354 785                      790                      795                      800
357 Ser Ser Gln His Phe Leu Ser Thr Ser Val Gln Leu Pro Trp Gln Arg
358                      805                      810                      815
361 Ser Ile Ser His Asn Lys Val Pro Tyr Tyr Ile Asn His Gln Thr Gln
362      820                      825                      830
365 Thr Thr Cys Trp Asp Arg Pro Lys Met Thr Glu Leu Phe Gln Ser Leu

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366      835      840      845
369 Ala Asp Leu Asn Asn Val Arg Phe Ser Ala Tyr Arg Thr Ala Ile Lys
370      850      855      860
373 Ile Arg Arg Leu Gln Lys Ala Leu Cys Leu Asp Leu Leu Glu Leu Asn
374 865      870      875      880
377 Thr Thr Asn Glu Val Phe Lys Gln His Lys Leu Asn Gln Asn Asp Gln
378      885      890      895
381 Leu Leu Ser Val Pro Asp Val Ile Asn Cys Leu Thr Thr Thr Tyr Asp
382      900      905      910
385 Gly Leu Glu Gln Met His Lys Asp Leu Val Asn Val Pro Leu Cys Val
386      915      920      925
389 Asp Met Cys Leu Asn Trp Leu Leu Asn Val Tyr Asp Thr Gly Arg Thr
390      930      935      940
393 Gly Lys Ile Arg Val Gln Ser Leu Lys Ile Gly Leu Met Ser Leu Ser
394 945      950      955      960
397 Lys Gly Leu Leu Glu Lys Tyr Arg Tyr Leu Phe Lys Glu Val Ala
398      965      970      975
401 Gly Pro Thr Glu Met Cys Asp Gln Arg Gln Leu Gly Leu Leu Leu His
402      980      985      990
405 Asp Ala Ile Gln Ile Pro Arg Gln Leu Gly Glu Val Ala Ala Phe Gly
406      995      1000      1005
409 Gly Ser Asn Ile Glu Pro Ser Val Arg Ser Cys Phe Gln Gln Asn
410      1010      1015      1020
413 Asn Asn Lys Pro Glu Ile Ser Val Lys Asp Phe Ile Asp Trp Met
414      1025      1030      1035
417 Arg Leu Glu Pro Gln Ser Met Val Trp Leu Pro Val Leu His Arg
418      1040      1045      1050
421 Val Ala Ala Ala Glu Thr Ala Lys His Gln Ala Lys Cys Asn Ile
422      1055      1060      1065
425 Cys Lys Glu Cys Pro Ile Val Gly Phe Arg Tyr Arg Ser Leu Lys
426      1070      1075      1080
429 His Phe Asn Tyr Asp Val Cys Gln Ser Cys Phe Phe Ser Gly Arg
430      1085      1090      1095
433 Thr Ala Lys Gly His Lys Leu His Tyr Pro Met Val Glu Tyr Cys
434      1100      1105      1110
437 Ile Pro Thr Thr Ser Gly Glu Asp Val Arg Asp Phe Thr Lys Val
438      1115      1120      1125
441 Leu Lys Asn Lys Phe Arg Ser Lys Lys Tyr Phe Ala Lys His Pro
442      1130      1135      1140
445 Arg Leu Gly Tyr Leu Pro Val Gln Thr Val Leu Glu Gly Asp Asn
446      1145      1150      1155
449 Leu Glu Thr Asn
450      1160
453 <210> SEQ ID NO: 3
454 <211> LENGTH: 988
455 <212> TYPE: PRT
456 <213> ORGANISM: Human Utrophin
458 <400> SEQUENCE: 3
460 Met Gln Ile Leu Arg Cys Leu Gln Lys Cys Gly Lys Leu Lys Met Met

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RAW SEQUENCE LISTING ERROR SUMMARY

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Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,4,5,6,7,9,10,11,12

VERIFICATION SUMMARY

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Input Set : E:\UPN-Q3355USA.txt

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L:12 M:270 C: Current Application Number differs, Replaced Current Application No

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date